Portable Traffic Signals

NCDOT
North Carolina Department of Transportation

Portable Traffic Signals

Portable Traffic Signals are totally mobile systems and are capable of being relocated to meet dynamic traffic demands.

All Portable Traffic Signals must meet the physical display and operational requirements of conventional traffic signals as specified in Part IV of the *Manual on Uniform Traffic Control Devices (MUTCD)* and the *N.C. Supplement to the MUTCD*.

Overview

- Project Special Provisions for Portable Traffic Signals
- Compare Portable Traffic Signals to Conventional Temporary Traffic Signals
- Possible Applications of Portable Traffic Signals

Project Special Provisions

- **2002 Standard Specifications for Roads and Structures**
  - The need for Portable Traffic Signals was determined by the Work Zone Traffic Control Unit and included as part of their Project Special Provisions.

- **2006 Standard Specifications for Roads and Structures**
  - The use of Portable Traffic Signals are now recommended by the ITS & Signals Unit in conjunction with the Regional Traffic Engineers. They are now a part of our Project Special Provisions.

Project Special Provisions

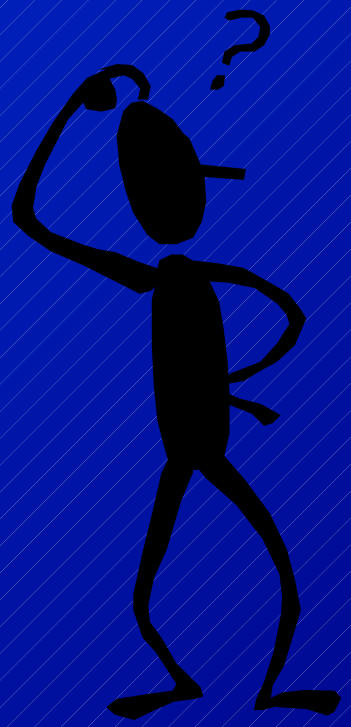
- **Trailers**
  - Painted Highway Orange
  - Equipped with a 12-volt lighting system
  - Withstand an 80 mph wind load with the signals in the operating position
  - Have a screw-type leveling device that can support the unit on a 1V:3H slope

Project Special Provisions

- **Signal Heads**
  - 12” aluminum or polycarbonate vehicle signal heads
  - 10” tunnel visors
  - Backplates
  - Light Emitting Diodes (LED’s)
  - Indication lights located on back of signal heads to show when the signal displays a Red indication (for manual operation)

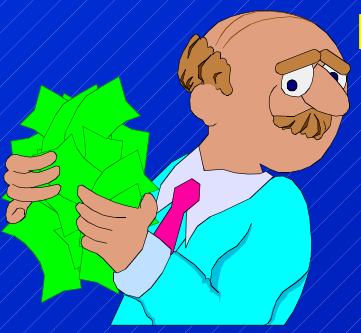
Portable Signals vs. Conventional Signals

- Cost
- Functionality
- Constructibility issues
- Duration



Portable Signals vs. Conventional Signals

- **Cost**
  - Conventional Temporary Signals
    - Average total cost - $38,000
      - At end of project, all equipment reverts to the division.
  - Portable Signals
    - Estimated Cost to purchase - $57,000
    - Estimated Cost to lease - $5,000 - $6,000 per month
      - Owned by contractor or returned to leasing company



Portable Signals vs. Conventional Signals

- **Functionality**
  - Pretimed/Actuated operation
    - Microwave Detectors can serve as Stopbar Detection on Portable Signals
    - Loops can also be used with Portable Signals
      - Special wiring needed
  - Driveway control on One-Lane Two-Way traffic patterns

Portable Signals vs. Conventional Signals

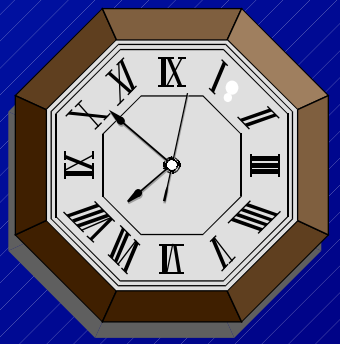
Constructibility Issues

Portable Signals vs. Conventional Signals

	Portable Signals	Conventional Signals
Wood Poles	None	Sometimes difficult or impossible to set
Power	Batteries charged by solar power or generators	Power supplied directly to cabinet
Span-Wire Conflict	None	May cause issues with cranes, etc.
Distance Restrictions	500 feet max between units	No Restrictions

Portable Signals vs. Conventional Signals

- Duration
  - No max duration defined for Portable Traffic Signals in Project Special Provisions
  - No time restriction on Conventional Traffic Temporary Signal Installations
  - A Conventional Temporary Traffic Signal is preferred if in use for more than 30 days.



Possible applications of Portable Signals

- One-Lane Two-Way Traffic Patterns
  - Short duration (preferably less than 30 days)

Possible applications of Portable Signals

- Pole Replacement
  - can be wired into an existing cabinet to provide temporary signal heads while new poles are erected

Possible applications of Portable Signals

- Emergency Traffic Control
  - Hurricane Disaster Relief, Power Outages, Emergency Vehicle Preemption, etc.

For additional information, please contact:

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